

Amendments to the Drawings:

The attached sheets of drawings include changes to Figures 1-5.

Attachment: Replacement Sheets

REMARKS

Claims 1-5, 7, 8, and 11-13 are presented for further examination. Claim 6 has been cancelled, and claims 1 and 11 have been amended.

In the final Office Action mailed November 29, 2002, the Examiner rejected claims 1-8 and 11-13 under 35 U.S.C. § 112, paragraphs 1 and 2. Turning first to the drawings, the Examiner disapproved of the proposed drawing corrections submitted on September 12, 2002, because it was not in the form of a pen and ink sketch showing changes in red ink or with the changes otherwise highlighted. Applicants are submitting herewith proposed drawing changes in the form requested by the Examiner showing the changes highlighted in yellow highlighter. Text has been added to the boxes in Figures 4 and 5 as shown. Approval of the changes and entry of the formal drawings is respectfully requested. Claims 1-4, 7, 11, and 12 were rejected under 35 U.S.C. § 103(a) as obvious over Maruyama et al. (of record) in view of newly-cited U.S. Patent No. 6,218,814 (“Kohl et al.”) and Japanese Patent No. 359076198 (“Kataoka”). Claims 5, 6, 8, and 13 were rejected as obvious over Maruyama et al., Kohl et al., and Kataoka, and further in view Iwatani et al. (also of record).

Applicants respectfully disagree with the bases for the rejections and request reconsideration and further examination of the claims.

With respect to the rejections under 35 U.S.C. § 112, the Examiner first objected to the claims because “the disclosures claims that the control unit is able to process, supply and predict later changes . . .” This language comes from claim 6, which has been cancelled, rendering this rejection moot.

With respect to claim 11, the Examiner notes that claim 11 states it does not use a signal from the alternator, although the specification and claims 3 and 4 imply the opposite. In response thereto, Applicants respectfully submit that the disclosed and claimed embodiments of the invention are designed to eliminate the need to use the phase signal from the alternator for regulating the alternator output because the phase signal tends to lag in time other changes occurring in the engine, such as engine speed, as discussed in the Background of the Invention. Instead, the present invention utilizes a control unit that quickly processes input from sensors attached to the engine to generate a phase signal for the voltage regulator, which in turn regulates

the alternator to control the output of the regulated voltage signal. Thus, the regulated voltage signal, which is the output of the alternator, is not the same signal as the phase signal. Claims 1 and 11, the two independent claims in this application, have been amended to more clearly recite this feature.

The Examiner also questioned the language of claim 1, stating that “the claim discloses that the voltage regulator receives a signal and at least one engine operation signal . . .” Applicants respectfully draw the Examiner’s attention to claim 1 wherein line 5 has been amended to clearly recite the control unit as the device for receiving the regulated voltage signal and the at least one engine operation signal.

Turning to the merits, claims 1-4, 7, 11, and 12 have been rejected as obvious over Maruyama et al., Kohl et al., and Kataoka. Maruyama et al., as discussed in the previous amendment, utilizes a phase signal from the alternator through the voltage regulator for controlling the output of the alternator. As is clear from the disclosed and claimed and embodiments of the invention, the present invention does not utilize any phase signal from the alternator because of the problems inherent with this configuration, as discussed in the Background of the Invention.

Applicants note that Kohl et al. also teaches at column 2, lines 14-31, that the control stage 25 has a signal processing circuit that picks up a phase signal from the generator that in turn is processed for controlling the generator. Thus, any combination of Maruyama et al. and Kohl et al. would clearly be inapposite to the present invention.

The Examiner relies on the teachings of Kataoka for using output from a sensor at a voltage regulator to control the regulator 5. However, Kataoka is concerned with preventing erroneous alarms of over voltage. Kataoka teaches that the “regulated voltage of the regulator 5” is varied so that the “setting voltage of an over voltage alarm can be simultaneously varied.” By preventing erroneous alarms of over voltage, Kataoka teaches that “the output of the engine can be effectively utilized . . .” Thus, Kataoka is directed to preventing shutting down of the generating system in response to false over voltage alarms. Kataoka fails to teach or suggest not using the phase signal of a generator. In fact, Kataoka is very similar in design to Kohl et al. More particularly, the comparator 15 in the voltage regulator 5a in Figure 2 of Kataoka receives

as input a phase signal from the alternator 3. Thus, even if one were motivated to combine the references as suggested by the Examiner, the combination would not only be inapposite to the present invention, but it would not include a control unit "adapted to receive a regulated voltage from the alternator without receiving a phase signal from the alternator" and to supply the "voltage regulator with a signal corresponding to the engine operation for controlling the regulated voltage signal delivered from the alternator."

In view of the foregoing, Applicants respectfully submit that claims 1 and 11 and their respective dependent claims are clearly in condition for allowance. Consequently, early and favorable action allowing these claims and passing this case to issuance is respectfully solicited.

In the event the Examiner finds minor informalities that can be resolved by telephone conference, the Examiner is urged to contact Applicants' undersigned representative by telephone at (206) 622-4900 in order to expeditiously resolve prosecution of this application.

The Commissioner is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

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ERT:aep

Enclosure:

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